To: Commissioner of Patents and Trademarks

Attn: Legal Instruments Examiner

1724
#7/B
ac 2-11-03

Jan. 28, 2003

Reference: Application No. 09/973095 Applicant: Jerry Chi Wang Date of Communication: 01/23/03
Title of Invention: Effluent Discharge System Facilitates Discharge of Sediments, and Powering of Underwater Machinery

Amendment
Amendment Filed on Jan. 2, 2003

Sir:

This is in response to your notice dated 1/23/03 requiring the supply of a marked-up version of the amended claims. The marked-up version of the amended claims is submitted herein below:

1. (Amended) An effluent discharge system for discharging water and sediments from dam or reservoir bottom comprising an intake end which is disposed at the bottom of the reservoir and having its intake port facing away from the dam wall, the connecting conduit which passes through the dam wall or the reservoir wall and is of air tight construction, a valve located at a convenient point in the conduit system for shut off, and a conduit discharge section which is on the down stream side of the dam wall and having its end port disposed at an elevation height sufficiently below the reservoir water level to avail adequate hydrostatic pressure at the system intake port to cause the inflow reservoir water to stir up and carry sediments with it through the conduit system to the dam down stream side where the discharging sediments laden effluent water is either fed to a hydroelectric generator for power generation, or is discharged into an irrigation system for agricultural use.

2. (Amended) An effluent discharge system according to claim 1 wherein the discharging sediments laden effluent water is fed to a hydroelectric generator or multiple generators through direct piping connection or alternately is discharged into a main header for feeding to a single or multiple generators. (Other descriptions that are included in Claim 1 are eliminated. Also the last phrase for qualifying the driving force "with or without any additional external supplied energy or pump as supplement." Is eliminated.)

3. (Amended) A movable hydraulic powered dredging system (underwater machinery) for use inside a dam or reservoir to perform under water mechanical work, such as dredging or mining, comprising:

- a hydraulic powered dredge assembly consisting of a housing with a center common drive shaft onto which are fastened a fluid drive propeller unit and a dredge head, such that when the fluid flow turns the propeller drive unit, the drive shaft in turn turns the dredge head,

(add clean copy #5)

- a conduit means for transport the water and entrained sediments to the dam down stream side comprising a flexible intake pipe section which runs between the dredge assembly housing outlet and a rigid pipe end fitting by the dam wall, a rigid pipe section passing through the dam wall, and a discharge pipe section extending from the dam wall on the down stream side, wherein the end of said discharge pipe section is disposed at an elevation height sufficiently below the reservoir water level to avail adequate hydrostatic head at the intake of the hydraulic drive assembly to push the reservoir water and entraining sediments to pass through the hydraulic drive unit forcefully to drive the dredge head and to pass through the conduit system freely for discharging them on the dam down stream side.
- a valve located at a convenient location in the conduit means for shut off and for flow throttling as a means of regulating the rotation speed of the dredge head; and
- a support and manipulating means such as that by suspending the dredge assembly housing with cables from a mobile overhead crane to support and move the hydraulic powered dredge assembly around the reservoir bottom.

As the rewritten amended claims are in grammatical structures and descriptions much different from the version used in the original claims, word for word marked-ups are not feasible. The marked-up provided about, however, has been made based on a close comparison on substances described in the two versions.

Sincerely,

Jerry C. Wang

Jerry Chi Wang
Applicant and Inventor
640 Cambridge Road, Paramus, NJ 07652